

Appl. No.: 10/709,861  
Amdt. Dated: 12/18/2007  
Reply to Office action of: 06/29/2007

**AMENDMENTS TO THE DRAWINGS:**

No amendments to the drawings are being presented herewith.

Appl. No.: 10/709,861  
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### REMARKS/ARGUMENTS

Claims 1 – 10 remain in this application. Claims 1, 3 – 7 and 9 – 10 have been amended to remove the phrase “the base fuel” as well as to correct minor typographical and grammar errors. In addition, claim 7 has been amended to correcting “hydrogencapacity” to – hydrogen capacity – .

No new matter has been introduced by these amendments to the claims.

Claims 3 – 7 and 9 – 10 were rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner states:

Claims 3 – 7 and 9 – 10 are rejected because the base claims do not provide the proper antecedent support for “the base fuel”.

In claim 7, “hydrogencapacity” should read – hydrogen capacity – .

Applicant respectfully traverses this rejection. By this amendment the phrase “the base fuel” has been removed and the claim now clearly claims use in “the gasoline motor fuel”. Claim 7 has had the typographical error pointed out by the Examiner corrected. In view of this amendment to claims 3 – 7 and 9 – 10 this rejection is now moot and Applicant asks that it be removed.

Claims 1 – 10 were rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson (US Pub. No. 20020023383 equivalent to US Pat. No. 6,488,723). Specifically, the Examiner states:

Nelson discloses a motor fuel additive composition comprising (a) a fuel conditioner component and (b) a detergent component. The fuel conditioner (a) comprises (i) from 2 to 50 percent by weight of a polar oxygenated hydrocarbon compound and (ii) from about 2 to about 50 percent by weight of an oxygenated compatibilizing agent. The detergent component (b) is selected from the group consisting of (i) a reaction product of a substituted hydrocarbon (A) and an amino compound (B), and (ii) a polybutylamine or polyisobutylamine (see abstract). The polar oxygenated hydrocarbon has an average molecular weight of from about 200 to about 500, and acid number of about 25 to 175, and a saponification number of about 75 to

Appl. No.: 10/709,861

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about 200 (see paragraph 50). The oxygenated compatibilizing agent has a solubility parameter of from about 7.0 to about 14.0 and moderate to strong hydrogen-bonding capacity (see paragraph 51 – 52). The hydrocarbon compound (A) of the detergent component is a substituted hydrocarbon of the formula  $R_1-X$  wherein  $R_1$  is a hydrocarbyl radical having a molecular weight in the range of about 105 to 10,000 and X is selected from the group consisting of halogens, succinic anhydride and succinic dibasic acid (see paragraphs 15 – 19). The amino compound (B) is of the formula  $H-(NH-(A)_m)_n-Y-R_2$  wherein Y, A, m, n, and  $R_2$  are identical to those in the instant claim 7 (see paragraphs 20 – 22). The polybutylamine or polyisobutylamine is identical to that in instant claim 7 (see paragraphs 23 – 25). Further, the composition includes alcohol such as methanol or ethanol, and additives that are typically employed in motor fuels (see paragraph 58). Nelson also discloses examples wherein the additive composition was added to a base fuel in amounts between 100 ppm and 5000 ppm (see Examples 4, 5, 7 and 9).

Nelson teaches the limitations of the claims other than exemplifying a composition wherein ethanol is present. However, it would have been obvious to include ethanol because Nelson teaches that the compound may be included in the composition.

The proportions of ethanol are not disclosed in Nelson. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the proportions of ethanol through routine experimentation for the best results. As to optimization of results, a patent will not be granted based upon the optimization of result effective variables when the optimizations obtained through routine experimentation unless there is a showing of unexpected results which properly rebuts the *prima facie* case of obviousness. See *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). See also *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Appl. No.: 10/709,861  
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Nelson is silent with respect to the order in which the additive is added to the base fuel. However, selection of any order of mixing ingredients is *prima facie* obvious.

Applicant respectfully traverses these rejections. Applicants are not sure why the Examiner cited the Publication Number of the Nelson US Patent 6,488,723 however Applicants will refer to this reference as the Nelson ('723) patent reference throughout this response. One of the keys to Applicant's invention is the ability to add the alcohol octane number enhancing additive to the additive package instead of to the gasoline motor fuel prior to the additive package being added to the gasoline motor fuel. Another key to Applicant's invention provides for maintaining the advantages of the alcohol octane number enhancing additive at lower levels than when it is added to the gasoline motor fuel before an additive package not containing the alcohol octane number enhancing material. In addition, the claimed invention allows for the maintenance of engine performance with lower than 10 volume percent of ethanol added to the gasoline.

A fair reading of the Nelson ('723) reference discloses an additive package for motor fuels having any alcohol octane number enhancing materials previously blended into the base motor fuel before addition of the additive package of Nelson ('723). Because of the unpredictable nature of organic compositions, adding the alcohol octane number enhancing material to the additive package before mixing into the fuel as opposed to adding the alcohol octane number enhancing material to the fuel before or after mixing in the additive package is not obvious.

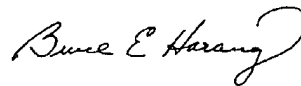
There is nothing in the Nelson ('723) reference which discloses, teaches or suggests to one skilled in the art how to modify the reference to provide for reducing the amount of ethanol required to realize the desired level of engine performance and ORI reduction by adding the ethanol to the other components of the claimed additive package instead of adding the ethanol to the fuel directly before or after adding any other additives.

Appl. No.: 10/709,861  
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Clearly, when viewed in this light the Nelson ('723) reference does not disclose, teach, or suggest the use of an additive composition allowing for lower levels of alcohol octane number enhancing material while retaining engine performance as claimed in Applicants' present invention.

In view of the remarks herein, and the amendments hereto, it is submitted that this application is in condition for allowance, and such action and issuance of a timely Notice of Allowance is respectfully solicited.

Respectfully submitted,



Bruce E. Harang  
Registration No. 29,720  
Tel.: (360) 903-4693